

IN THE CLAIMS

This listing of claims replaces all prior versions and listings of the claims in the above-referenced application.

1. (Previously Presented) A method for fabricating a light-emitting semiconductor device including a III-Nitride light emitting layer, said method comprising:
selecting a facet orientation of said III-Nitride light emitting layer to control a field strength of a piezoelectric field therein; and

growing said III-Nitride light emitting layer with a wurtzite crystal structure with said selected facet orientation, said selected facet orientation being tilted at least 10° from the {0001} direction of said wurtzite crystal structure.

2. (Previously Presented) The method of Claim 1, further comprising selecting said facet orientation to reduce a magnitude of an electric field strength in said light emitting layer.

3. (Canceled).

4. (Canceled).

5. (Previously Presented) The method of Claim 1, further comprising growing said light emitting layer with a wurtzite crystal structure with said selected facet orientation tilted from the {0001} direction of said wurtzite crystal structure at an angle selected from about 30° to about 50° , about 80° to about 100° , and about 130° to about 150° .

6. (Previously Presented) A method for fabricating a light-emitting semiconductor device including a III-Nitride light emitting layer, said method comprising:
selecting a facet orientation of said III-Nitride light emitting layer to control a field strength of a piezoelectric field therein; and

growing said III-Nitride light emitting layer with a zincblende crystal structure with said selected facet orientation, said selected facet orientation being tilted at least 1° from the

PATENT LAW
GROUP LLP
2635 N. FIRST ST.
SUITE 223
SAN JOSE, CA 95134
(408) 382-0481
FAX (408) 382-0481

{111} direction of said zincblende crystal structure.

7. (Previously Presented) The method of Claim 1, further comprising growing a nucleation layer directly on a substrate surface, and growing said light emitting layer above said nucleation layer.

8. (Original) The method of Claim 7, further comprising selecting said substrate surface to have a lattice mismatch of less than about 10% with a material from which said nucleation layer is formed.

9. (Original) The method of Claim 7, further comprising growing said nucleation layer by metal-organic chemical vapor deposition at a temperature such that a crystal structure of said nucleation layer substantially replicates a crystal structure of said substrate surface.

10. (Original) The method of Claim 7, further comprising selecting a material from which said substrate is formed from the group consisting of SiC, AlN, and GaN.

11. (Original) The method of Claim 7, wherein said nucleation layer comprises a III-Nitride material.

12. (Previously Presented) The method of Claim 1, further comprising:
growing a first semiconductor layer above a substrate, said first semiconductor layer being grown with a first facet orientation different from said selected facet orientation;
altering an exposed surface of said first semiconductor layer to provide a surface having said selected facet orientation; and
growing said light emitting layer above said surface having said selected facet orientation.

13. (Original) The method of Claim 12, wherein altering said exposed surface comprises selectively etching said first semiconductor layer.

14. (Previously Presented) The method of Claim 12, further comprising growing

PATENT LAW
GROUP LLP
2635 N. FIRST ST.
SUITE 203
SAN JOSE, CA 95134
(408) 392-0480
FAX (408) 392-0481

a second semiconductor layer above said light emitting layer, said second semiconductor layer being grown with a facet orientation about equal to said first facet orientation.

15-19. (Canceled).

20. (Previously Presented) A method for fabricating a light-emitting semiconductor device including a III-Nitride light emitting layer, said method comprising:

selecting a facet orientation of said III-Nitride light emitting layer to control a field strength of a spontaneous electric field therein; and

growing said III-Nitride light emitting layer with a wurtzite crystal structure with said selected facet orientation, said selected facet orientation being tilted at least 10° from the {0001} direction of said wurtzite crystal structure.

21. (Previously Presented) The method of Claim 20, further comprising selecting said facet orientation to reduce a magnitude of an electric field strength in said light emitting layer.

22. (Previously Presented) A method for fabricating a light-emitting semiconductor device including a III-Nitride light emitting layer, said method comprising:

selecting a facet orientation of said III-Nitride light emitting layer to reduce a magnitude of a combined field strength of a piezoelectric field and a spontaneous electric field therein; and

growing said III-Nitride light emitting layer with a wurtzite crystal structure with said selected facet orientation, said selected facet orientation being tilted at least 10° from the {0001} direction of said wurtzite crystal structure.

23. (Previously Presented) The method of Claim 22 further comprising growing said light emitting layer with a wurtzite crystal structure with said selected facet orientation tilted from the {0001} direction of said wurtzite crystal structure at an angle selected from about 80° to about 100° .

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GROUP LLP
2635 N. FIRST ST.
SUITE 223
SAN JOSE, CA 95134
(408) 382-0480
FAX (408) 382-0481

24. (Previously Presented) The method of Claim 1 wherein said selected facet orientation is tilted about 90° from the {0001} direction of said wurtzite crystal structure.

25. (Previously Presented) The method of Claim 1 wherein said selected facet orientation is the a-plane.

26. (Previously Presented) The method of Claim 1 wherein said selected facet orientation is the m-plane.

27. (Previously Presented) The method of Claim 1 wherein said light emitting layer is a quantum well layer.

PATENT LAW
GROUP LLP
2635 N. FIRST ST.
SUITE 200
SAN JOSE, CA 95131
(408) 352-0480
FAX (408) 382-0481